

REMARKS

Claims 1 and 4-35 are pending in the present application. Support for the amendments to claim 1 may be found in the specification as originally filed, for example, in original claims 2, 3 and 10 and page 14, lines 6-10. Support for the amendment to claim 11 may be found in the specification as originally filed, for example, at page 14, lines 6-10. Support for new claims 19-35 may be found in the specification as originally filed, for example:

Claim 19 and 34 Page 30, lines 13-16.

Claim 20 and 35 Page 27, lines 19-24.

Claims 21-34 Original claims 4-9 and 12-19, respectively.

I. The Rejection Under 35 U.S.C. 103(a)

Claims 1-18 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent 6,141,149 (the '149 Patent).

The Examiner's statement of the rejection was "Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable 5999239 (239) in view of 6141149 (149)." This statement of the rejection is confusing in that two references were listed in the statement of the rejection, but only one reference discussed in the body of the rejection. We discussed this with the Examiner, who stated that the rejection should be considered to be based on one reference, the '149 Patent.

Additionally, the Examiner did not list U.S. Patent 5,999,239 on the Notice of References cited. The Examiner is requested to make U.S. Patent 5,999,239 of record by listing it on a Notice of References cited.

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of the '149 Patent and request that the Examiner reconsider and withdraw this rejection in view of the following remarks.

Claims 1 and 11 have been amended to claim to recite that, as a matrix (translucent thermoplastic resin), polyvinyl alcohol (PVA) is used, whereas according to the '149 Patent, as a continuous phase (matrix), PVA is not used. Namely, there is no PVA in the sections of the '149 Patent pointed by the Examiner and there is no PVA in Examples of the '149 Patent.

Further, independent claim 1 has been amended to recite that the minute domain is formed of a liquid crystalline thermoplastic resin (the subject matter of claim 10). Claim 11 has been rewritten into independent form and recites that the minute domain is formed of a product obtained by polymerization of a liquid crystalline monomer. On the other hand, in the '149 Patent, the term "liquid crystal" is described only in line 58 of column 12, and there is a description that said "liquid crystal" can be used as a forming material for both a disperse phase and a continuous phase. In addition, the '149 Patent does not have any Example wherein a liquid crystal is used.

The '149 Patent teaches that it is preferable to add the dye to the dispersion phase. Specifically, the '149 Patent describes in column 19, lines 46-49, "... it may be incorporated into either the continuous or disperse phase. However, it is preferred that the dichroic dye is incorporated into the disperse phase." The '149 Patent also does not have any Examples using a dye. To the contrary, in the present invention, the dye is dispersed in the matrix (translucent thermoplastic resin (PVA)),

The “liquid crystal” discussed in the present invention is technically different from that discussed in the ‘149 Patent. See the discussion of JP 2002-506990 in Applicants’ specification in the paragraph bridging pages 66-67. The disclosures of the ‘149 Patent are similar to those of JP 2002-506990. JP-A No.2000-506990 discloses an optical system to which a dichroic dye is added to either of continuous phase or dispersed phase. The background of invention given in JP-A No.2000-506990 describes that optical property of a stretched film in which liquid droplets of a liquid crystal are arranged in a polymer matrix is indicated by Aphonin et al. However, Aphonin et al. mentions an optical film comprising a matrix phase and a dispersed phase (liquid crystal component), without using a dichroic dye, and since a liquid crystal component is not a liquid crystal polymer or a polymerized liquid crystalline monomer, a liquid crystal component in the film concerned has a sensitive birefringence typically depending on temperatures.

On the other hand, the present invention provides a polarizer comprising a film having a structure where minute domains are dispersed in a matrix formed of a translucent thermoplastic resin including an absorption dichroic dye. Furthermore, in a liquid crystalline material of the present invention, in the case of a liquid crystal polymer, after it is orientated in a liquid crystal temperature range, cooled to room temperatures and thus orientation is fixed, in the case of a liquid crystalline monomer, similarly, after orientation, the orientation is fixed by ultraviolet curing etc., birefringence of minute domains formed by a liquid crystalline material does not change by changes of temperatures.

As to the haze in the present invention, the Examiner recognized that the haze value can

be estimated from the data of percent transmission and percent reflection in Example 11 and the like of the '149 Patent, and alleges that the increase of the linear polarization in the absorption direction is a matter of design. However, the '149 Patent discloses only the values of percent transmission and percent reflection, and the '149 Patent does not describe the scattering of transmitted light at all.

According to the present invention, the optical path length of the transmitted light in the absorption direction is enhanced by light scattering. On the other hand, according to the '149 Patent, the amount of light transmitted forward is reduced by the diffuse reflection. From this viewpoint, in the '149 Patent, the light scattering is not a necessary matter of design. Even if Examples of the '149 Patent are performed, the haze values defined in the present invention cannot be obtained. For the above reasons, the haze values of the present invention are not obvious as a matter of design choice, or otherwise, from the disclosures of the '149 Patent.

For the above reasons, it is respectfully submitted that the subject matter of claims 1 and 4-45 is neither taught by nor made obvious from the disclosures of the '149 Patent and it is requested that the rejection under 35 U.S.C. §103(a) be reconsidered and withdrawn.

II. Conclusion

In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejection under 35 U.S.C. §103 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

Amendment Under 37 C.F.R. §1.111
Application No. 10/526,876

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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